REMARKS

Claim 1 has been amended to specify that each constituent member of the plurality is: (a) antagonistic against a plurality of microbial pathogens; (b) non-pathogenic towards plants and animals; (c) is tolerant of high temperatures; (d) grows rapidly; and e) proliferates on a complex substrate. Support for this amendment may be found in the specification and the original claims, e.g., original claim 1.

No new matter is added. Accordingly, the Applicant respectfully requests entry of the amendment.

In view of the above amendment and following remarks, the Examiner is respectfully request to withdraw the rejections and allow Claims 1 and 3-8, 10-15 and 17-21, the only claims pending in this application.

REJECTION UNDER 35 U.S.C. §102(b)

Claims 1, 3-8, 10-15, 17-19 and 21 have been rejected under 35 U.S.C. §102(b) as being anticipated by Muir (US 4,952,229). The Applicant respectfully submits that the subject claims are not anticipated by Muir.

Independent Claim 1, and Claims 3-8 that depend therefrom, specify that each constituent member of the composition is: (a) antagonistic against a plurality of microbial pathogens; (b) non-pathogenic towards plants and animals; (c) is tolerant of high temperatures; (d) grows rapidly; and (e) proliferates on a complex substrate. Accordingly, to anticipate Claim 1 and the claims that depend therefrom, a Muir must teach a microbial composition made-up of a plurality of distinct microbial species, each member thereof having every one of the above-described properties. However, the cited reference does not teach a composition of distinct microbial species wherein each member of the composition possesses every one of the claimed characteristics.

Muir teaches a plant supplement that includes microorganisms and teaches various microbes for use in the supplement (e.g., col. 3, lines 56- col. 5, line 20). However, nowhere in this reference is it taught that the supplement is made-up of a plurality of microorganisms and that each microorganism that makes up the supplement is antagonistic against microbe pathogens, non-pathogenic toward plant and animals, tolerant of high temperatures, grows rapidly, and proliferates on a complex substrate. Rather, the Applicant respectfully submits that the supplement of Muir includes microbes that do not

posses all of the specified properties and in fact many of the microbes taught by Muir as being "preferred" do not posses all of the specified properties.

For example, Muir teaches fourteen preferred species (col. 3 bridging col. 4). However, six of these do not meet all of the claimed criteria. Specifically, Muir teaches the use of Arthrobacter globiformis and Arthrobacter agilis. However, it is known in the art that Arthrobacter globiformis and Arthrobacter agilis do not posses all of the claimed properties. Specifically, Arthrobacter globiformis and Arthrobacter agilis are not tolerant of high temperatures, which is a property claimed in claim 1.

Muir also teaches the preferred use of Pseudomonas denitrificans. However, it is known in the art that Pseudomonas denitrificans do not posses all of the claimed properties. Specifically, Pseudomonas denitrificans are not tolerant of high temperatures and are pathogenic to plants and animals. However, intolerance of high temperatures and non pathogenicity to plants and animals are properties claimed in Claim 1.

Muir also teaches the preferred use of Bacteroides lipolyticum. However, it is known in the art that Bacteroides lipolyticum does not posses all of the claimed properties. Specifically, Bacteroides lipolyticum is pathogenic to humans and animals, is not tolerant of high temperatures, and has a slow growth rate. However, non pathogenicity to plants and animals, intolerance of high temperatures, and rapid growth are properties claimed in Claim 1.

Muir also teaches the preferred use of Kurthia zopfil. However, it is known in the art that Kurthia zopfil does not posses all of the claimed properties. Specifically, Kurthia zopfil is not tolerant of high temperatures and is pathogenic to animals. However, intolerance of high temperatures and non pathogenicity to plants and animals are properties claimed in Claim 1.

Muir teaches the preferred use of Brevibacterium lipolyticum. However, it is known in the art that of Brevibacterium lipolyticum does not posses all of the claimed properties. Specifically, Brevibacterium lipolyticum is not tolerant of high temperatures, which is a property claimed in claim 1.

Accordingly, six of the fourteen microbes taught in Muir do not posses all of the properties specified in Claim 1.

Furthermore, many of the microbes taught in Muir as substitutable for the preferred microorganisms also do not possess all of the specified properties. For example, Muir teaches that Arthrobacter Citreus, Arthrobacter Luteus, and Arthrobacter simplex may be substituted for one or more of the preferred microorganisms. However, Arthrobacter Citreus, Arthrobacter Luteus, and Arthrobacter simplex are all intolerant of high temperatures.

Muir also teaches that Pseudomonas putida may be substituted for one of the preferred microorganisms. However, as noted above, Pseudomonas putida is not tolerant of high temperatures and may become a pathogen of animals.

Muir also teaches that Acinetobacter lwoffii may be substituted for one of the preferred microorganisms. However, Acinetobacter lwoffii is not tolerant of high temperatures, is a parasite of animals and cannot be proliferated on a complex substrate.

Furthermore, the two microorganisms taught in Muir as additional microorganisms that may be added to the preferred microorganisms (col. 4, lines 37-45) also do not possess all of the specified properties. Specifically, Muir teaches that Azotobacter chroecum and Azotobacter paspali may be added to the preferred microorganisms. However, Azotobacter chroecum and Azotobacter paspali are not antagonistic to a plurality of plant pathogens, are intolerant of high temperatures, do not grow rapidly and cannot proliferate on a complex substrate. Muir also teaches that Azosprillum brasilienese and Azosprillum lipoferum may be added to, or substituted for, other microorganisms. However, Azosprillum brasilienese and Azosprillum lipoferum are not antagonistic to a plurality of plant pathogens, are not intolerant of high temperatures, do not grow rapidly and cannot proliferate on a complex substrate.

Still further, Muir teaches fungal cultures that may be added to the supplement, however two of the three mentioned do not posses all of the specified characteristics. Specifically, Muir teaches that Myrothecium verrucaria and Phanerochaete chrysosporium may be added to the supplement. However, Myrothecium verrucaria is not antagonistic to a plurality of plant pathogens, is a pathogen of animals and plants and is intolerant of high temperatures. Phanerochaete chrysosporium is not antagonistic to a plurality of plant pathogens, is pathogen to plants (causes white rot), is intolerant of high temperatures, has a slow growth rate, and cannot be proliferated on a complex substrate.

Additionally, Muir teaches that Brevibacterium stationis may be added to the fourteen preferred species (col. 5, line 19). However, Brevibacterium stationis does no posses all the specified properties as it is intolerant of high temperatures.

Accordingly, Muir teaches a supplement that includes microorganisms, where various microorganisms that make-up the supplement do not posses one or more of the following properties: antagonistic against microbe pathogens, non-pathogenic toward plant and animals, tolerant of high temperatures, grows rapidly, and proliferates on a complex substrate, as claimed in Claim 1. As such, Muir does not teach all of the limitations of independent Claim 1 and the claims that depend therefrom, namely a composition having a plurality of distinct microbial species, where each constituent member of

the composition is: (a) antagonistic against a plurality of microbial pathogens; (b) non-pathogenic towards plants and animals; (c) is tolerant of high temperatures; (d) grows rapidly; and (e) proliferates on a complex substrate. Therefore, for at least the reasons described above, i.e., because Muir does not teach each and every limitation of independent Claim 1, and the claims that depend therefrom, the claims are not anticipated by Muir.

Independent Claim 10, and the claims that depend therefrom, have also been rejected as being anticipated by Muir. Claim 10 recites a composition comprising a plurality of distinct microbial species made up of at least 5 different bacterial species and at least 2 different fungal species, wherein each constituent member is antagonistic against microbe pathogens, non-pathogenic toward plant and animals, tolerant of high temperatures, grows rapidly, and proliferates on a complex substrate.

As described above, Muir teaches a supplement that includes microorganisms and Muir teaches specific microorganisms suitable for use in the supplement. However, numerous microorganisms taught by Muir do not posses all of the claimed properties. Accordingly, Muir does not anticipate Claim 10 and the claims that depend therefrom as Muir does not teach that all of the microorganisms posses the properties of Claim 1. As such, the Applicant respectfully requests that this rejection be withdrawn.

Independent Claim 13 incorporated the composition of Claim 1. Accordingly, for reasons analogous to those described above with respect to Claim 1, The Applicant respectfully submits that Muir does not anticipate Claim 13 and respectfully requests that this rejection be withdrawn.

The Examiner has also rejected independent Claim 14 and claims that depend therefrom, as being anticipated by Muir. Independent Claim 14 recites a method of producing a composition according to claim 1 that includes (a) identifying a plurality of microbial species that are (i) antagonistic against a plurality of microbial pathogens; (ii) non-pathogenic towards plants and animals; (iii) is tolerant of high temperatures; (iv) grows rapidly; and (v) proliferates on a complex substrate; (b) proliferating the plurality of a complex substrate, and (c) combining the plurality to produce the composition of claim 1.

As described above, Muir does not disclose the composition of Claim 1 and as such does not disclose a method of producing a composition according to claim 1 that includes the steps of Claim 14.

Accordingly, Muir fails to teach each and every claimed limitation, i.e., a method of producing a composition according to Claim 1, and therefore does not anticipate independent Claim 14 and the claims that depend therefrom. As such, the Applicant respectfully request this rejection be withdrawn.

REJECTION UNDER 35 U.S.C. §103(a)

Claim 20 has been rejected under 35 U.S.C. §103(a) as being unpatentable over Muir. The Applicant respectfully submits that Claim 20 is patentable over Muir,

Claim 20, depends from Claim 14, which is directed to a method of producing a composition according to Claim 1. As described above, Muir does not teach each and every element of Claim 1 (or Claim 14) as Muir does not teach that each member of the supplement is: (a) antagonistic against a plurality of microbial pathogens; (b) non-pathogenic towards plants and animals; (c) is tolerant of high temperatures; (d) grows rapidly; and (e) proliferates on a complex substrate. Accordingly, Muir does not teach a method of producing a supplement wherein all microbes of the supplement possess all of these properties.

Furthermore, Muir does not suggest such a method as Muir specifically describes numerous microbes for use in a supplement that do not possess one or more of the specified properties and there would be no motivation or suggestion to modify the invention of Muir with respect to a method of making a composition wherein each member of the composition has all of the specified properties as there is no motivation in the references, or in any of the art of record, to selectively pick and choose from the list of microorganisms provided in Muir to specifically select those that posses the claimed properties and selectively omit all the other microorganisms taught in Muir that do not.

Accordingly, nowhere in the disclosure of Muir is a supplement taught that is made-up of a plurality of microorganisms and that each microorganism that makes up the supplement is antagonistic against microbe pathogens, non-pathogenic toward plant and animals, tolerant of high temperatures, grows rapidly, and is proliferated on a complex substrate and neither is it taught or suggested to choose such microorganisms from the microorganisms described in Muir.

Accordingly, for at least the reasons described above, the Applicant respectfully requests that this rejection be withdrawn.

CONCLUSION

In view of the above amendments and remarks, this application is considered to be in good and proper form for allowance and the Examiner is respectfully requested to pass this application to issue.

The Commissioner is hereby authorized to charge any fees under 37 C.F.R. §§1.16 and 1.17 which may be required by this paper, or to credit any overpayment, to Deposit Account No. 50 0815, reference no. YAMA-008.

Respectfully submitted,
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Date: 4/5/04

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